Remarks/Arguments:

The Applicant wishes to thank the Examiner for consideration of the response to the Office Action of 01/11/05. Applicants have previously pointed out the nature of their claimed invention which is a top spin-valve GMR read sensor with a SyAP layer and a novel contiguous junction on which is formed a longitudinal magnetic bias layer and a lead overlay structure.

Fig. 3b and 3c of the Application illustrates the novel contiguous junction and lead overlay configuration of the present invention. In the prior art of lead overlay configurations, as shown in Fig. 1 of the Application, longitudinal bias layers are typically formed abutting substantially vertical etched sides of the spin-valve stack while the conducting lead layers are formed over the top of the stack (the "overlay"), as shown in Fig. 1. The lead overlay configuration has proven to be advantageous compared to the more standard abutted junction lead layer configuration (where both the leads and the bias layers abut the sensor sides), because the trackwidth of the sensor can be defined by the separation of the two overlaid leads. In the abutted junction configuration, the trackwidth is defined by the actual physical width of the sensor, which is determined by the separation of the etched opposite sides against which both the lead and the bias layers are abutted.

In the lead overlay configuration of the prior art (Fig. 1 of the subject Application), current from the lead layer must pass vertically downward through high resistance portions of the sensor, such as its capping layer and its pinning layer. In the lead overlay configuration of the present claimed invention, the spin-valve stack has sides

that are etched to provide two separate vertical contact surfaces (the claimed first and second side regions of amended claim 22) and a horizontal surface between them. The lead overlay is formed against one of the vertical contact surfaces and over the horizontal surface, and it extends over the longitudinal bias layer that is formed against the other surface (Fig. 3c of the subject Application). The vertical and horizontal contact surfaces on which the lead overlay is formed allows the lead overlay to inject its current into the sensor in a more advantageous manner, bypassing the high resistance sensor layers. In addition, the formation of the horizontal contact surface destroys the activity of the pinned layer within the region of formation, since the surface must remove a portion of the pinned layer. This eliminates the GMR properties of the sensor within the lead overlay region, further helping to narrow the active trackwidth region.

Claim Rejections- 35 USC 103

Applicants respectfully request reconsideration of the rejection of amended claim 22 under 35 USC 103(a) as being unpatentable over Lin et al. (U.S. Patent No. 6,262,869) in view of Gill (U. S. Patent No. 6,538,856) and Nakamoto et al. (U. S. Patent No. 5,936,810).

Applicants have taken Examiner's suggestion regarding the allowability of claim 38 if it is rewritten in independent form including all of the limitations of the base claim (claim 22) and any intervening claims (i.e. claim 35). Accordingly, base claim 22 has been amended to include the limitations recited in both dependent claims 35 and 38 and

claims 35 and 38 have been canceled. Applicants now believe that claim 22 is in a condition for allowance.

With regard to original claims 36 and 37, claiming the structure (materials and dimensions) of the conducting lead layer formed on the sensor, Applicants would argue that the patentability of the sensor also renders as patentable the conducting lead layer formed on the sensor. In particular, the novel shape of the sensor and the structure of the junction against which the conducting lead layer must be formed places limits on the materials and dimensions of an appropriate conducting lead layer. The materials and dimensions claimed in claims 36 and 37 have been shown to achieve the objects of the claimed invention.

If the Examiner has any questions regarding the above application, please call the undersigned attorney at 845-452-5863

Respectfully submitted,

Stephen B. Ackerman, Reg. No. 37,761